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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/321,594	05/28/1999	ALAN J. DEMERS	50277-313	6698

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EXAMINER
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YUAN, ALMARI ROMERO

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/321,594

Applicant(s)

DEMERS ET AL.

Examiner

Almari Yuan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 25.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is responsive to communications: RCE, Amendment, and IDS filed 7/16/04.
2. The rejection of claims 9-10 under 35 U.S.C. 103(a) as being unpatentable over Zollinger et al. (USPN 5,999,947 – filed on 05/1997) has been withdrawn in light of newly found art.
3. Claims 1-11 and 14-15 are pending in the case. Claims 1, 9, and 11 are independent claims.

#### ***Continued Examination Under 37 CFR 1.114***

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/16/04 has been entered.

#### ***Information Disclosure Statement***

5. The information disclosure statement (IDS) submitted on 7/16/04 has been considered by the Examiner.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**7. Claims 1-8, 11 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zollinger et al. (USPN 5,999,947 – filed on 05/1997).**

**Regarding independent claim 1, Zollinger et al. (Zollinger) discloses:**

A method of propagating changes to a table (on col. 3, lines 1-10: teaches sending table differences to another table) comprising the steps of:

maintaining a first copy of the table at a first site (on col. 3, lines 1-67: teaches copy of a database table at client);

maintaining a second copy of the table at a second site (on col. 3, lines 1-67: teaches copy of a database table at server); and

transmitting changes of the first copy of the table from the first site to the second site (on col. 3, lines 1-67: teaches sending database table differences from copy of the database table at the server to the copy of the database table at client for synchronizing tables);

updating the second copy of the table at the second site based on the transmitted changes (on col. 3, lines 1-67: teaches updating copy of database tables from server to client based on database table differences);

wherein the first copy of the table and the second copy of the table resulting from said transmitting and updating (on col. 2, lines 14-17 and on col. 7, lines 46-54 teaches transmitting changes to the client to update client copy of the database table) have at least one non-overlapping relational database column (on col. 5, lines 64-66, col. 6, lines 3-25, and col. 10, line 40 – col. 11, line 32: teaches updating database table from server to client by adding a column

(database table difference) to the database table of the client, wherein the column in the database table is in a relational database environment).

However, Zollinger does not explicitly disclose “non-overlapping column”.

Zollinger on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches an entire column can be added to a database table changing the structure of the database table.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

**Regarding dependent claim 2**, Zollinger discloses:

wherein the non-overlapping relational database column is present in the first copy and missing in the second copy (on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches an entire column can be added or deleted (missing) to a database table changing the structure of the database table; the copy of the database table at client can be missing a column and such updating process is needed to synchronize the database table with the copy of the database table at server having the missing column).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

**Regarding dependent claim 3**, Zollinger discloses:

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wherein the non-overlapping relational database column is missing in the first copy and present in the second copy (on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches an entire column can be added or deleted (missing) to a database table changing the structure of the database table; updates as part of synchronizing the database differences of a client and server copy database tables).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

**Regarding dependent claim 4**, Zollinger discloses:

comprising the step of reconciling differences in the column shape of the first copy and the column shape of the second copy for the transmitted changes (on col. 3, lines 1-43 and col. 10, line 40 – col. 11, line 32: teaches sending database table differences and updating the copy of the database table at client by adding a column which will change the structure of database table).

**Regarding dependent claim 5**, Zollinger discloses:

comprising the step of defining a top flavor describing overlapping relational database columns and non-overlapping relation database columns of the table (on col. 6, lines 3-40: teaches supersets or collections (flavor) of the updates which may include updating a database table by adding or deleting columns of a database table).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table which will

change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

**Regarding dependent claim 6, Zollinger discloses:**

comprising the steps of: defining a first flavor describing the columns of the first copy; and transmitting an indicator of the first flavor from the first site to the second site (on col. 6, lines 3-40: teaches supersets or collections (flavor) of the updates of the database tables).

**Regarding dependent claim 7, Zollinger discloses:**

comprising the steps of: defining a second flavor describing the columns of the second copy and wherein the step of updating the second copy of the table at the second site based on the transmitted changes includes the step of updating columns between the first flavor and the second flavor in the second copy of the table (on col. 6, lines 3-40: teaches supersets or collections (including second flavor) of the updates of the database tables based on the differences of two separate database tables).

**Regarding dependent claim 8, Zollinger discloses:**

the step of maintaining a first copy of the table at a first site includes the step of maintaining an updatable snapshot at a laptop computer site and the step of maintaining a second copy of the table at the second site includes the step of maintaining a master table at a master site (on col. 6, lines 19-40: teaches changes of a database table can be determined by a database table that has been “frozen” so that differences may be measured; on col. 7, lines 28-37: teaches laptop computer).

**Regarding independent claim 11, Zollinger discloses:**

A method of propagating changes to a data container (on col. 3, lines 1-10: teaches sending table differences to another table), comprising the steps of:

maintaining a first copy of the data container at a first site; (on col. 3, lines 1-67: teaches copy of a database table at client);

maintaining a second copy of the data container at a second site (on col. 3, lines 1-67: teaches copy of a database table at server); and

transmitting changes to the first copy of the data container from the first site to the second site (on col. 3, lines 1-67: teaches sending database table differences from copy of the database table at the server to the copy of the database table at client for synchronizing tables);

updating the second copy of the data container at the second site based on the transmitted changes (on col. 3, lines 1-67: teaches updating copy of database tables from server to client based on database table differences);

wherein the first copy of the data container and the second copy of the data container have at least one non-overlapping data field (on col. 5, lines 64-66, col. 6, lines 3-25, and col. 10, line 40 – col. 11, line 32: teaches updating database table from server to client by the addition of an extra field or column (database table difference) to the database table of the client).

However, Zollinger does not explicitly disclose “non-overlapping data field”.

Zollinger on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches an extra field or column can be added to a database table changing the structure of the database table.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding field or column to a database table which will



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change the structure of the database table of Zollinger replacing non-overlapping field in a table in order to efficiently handle the updating process of small database table.

**Regarding dependent claim 14**, Zollinger discloses:

wherein the first copy of the table and second copy of the table have at least one non-overlapping relational database column after said updating (on col. 10, line 40 – col. 11, line 32, see figures 2A and 2D: teaches the title column has been added into the table of figure 2D); Figures 2A and 2D shows the differences after update from the addition of a new column in figure 2D (non-overlapping columns between tables)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

**Regarding dependent claim 15**, Zollinger discloses:

wherein the first copy of the container and second copy of the container have at least one non-overlapping relational database field after said updating (on col. 10, line 40 – col. 11, line 32, see figures 2A and 2B: teaches the field of Mr. Mauss has been added into the table of Figure 2B; Figures 2A and 2B shows the differences after updating from the addition of a new field in figure 2B (non-overlapping field)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding field or column to a database table which will change the structure of the database table of Zollinger replacing non-overlapping field in a table in order to efficiently handle the updating process of small database table.

8. **Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zollinger et al. (USPN 5,999,947 – filed on 05/1997) in view of Suver (USPN 6,016,497 – filed 12/1997).**

**Regarding independent claim 9, Zollinger discloses:**

A method of modifying a table to drop a first column and add a second column, said table being replicated at a plurality of sites (on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches columns or records in a database table can be added and deleted and updating these changes of the addition and deletion to another copy of the database table), comprising the steps of:

(a) defining a first flavor for a first site, said first flavor describing the table as having both the first column and the second column (on col. 3, lines 1-67: teaches copy of a database tables at client or server and on col. 6, lines 19-40: teaches updates of database tables may be supersets or collections (flavors) of other updates);

(b) adding the second column to the table at the first site, so that the table contains both the first column and the second column (on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches adding column to a database table);

(c) defining a second flavor for a second site, said second flavor describing the table as having the second column but not the first column (on col. 3, lines 1-67: teaches copy of a database tables at the client or server, in which the columns of the client's or server's database table may not have the current updated column and on col. 6, lines 19-40: teaches updates of database tables may be supersets or collections (flavors) of other updates);

(d) adding the second column to the table at the second site (on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches columns can be added and records in a database table can be deleted and updating these changes of the addition and deletion to another copy of the database table);

(e) defining the second flavor for the first site and dropping the first column from the table at the first site (on col. 6, lines 19-40 and col. 10, line 40 – col. 11, line 32: teaches deletion of records from a database table); and

(f) maintaining replication activities while performing steps (a), (b), (c), (d), and (e) (on col. 3, lines 1-67: teaches synchronization process between two database table at the client and at the server).

Zollinger on col. 6, lines 19-25 and col. 10, line 40 – col. 11, line 32: teaches changing the state of a database, such as additions, deletions, or modification of records and which changes may include adding an extra field or column to a database table, in other words, if changes such as deleting records or adding columns to a database table is done, deletion of a column containing such records can also be done.

However, Zollinger does not explicitly disclose “dropping the first column”.

Suver on col. 19, lines 15-17 teaches synchronization between multiple tables; on col. 21, lines 6-9 teaches updating the database schema; and on col. 21, lines 61-64 teaches dropping a column.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified Suver into Zollinger to provide a way to drop columns, as

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taught by Suver, incorporated into the table of Zollinger, in order to enhance the manipulation of columns and rows within a database.

**Regarding dependent claim 10**, Zollinger discloses:

transmitting changes to the table from the first site to the second site; and updating the second copy of the table at the second site based on overlapping columns between the first flavor and the second flavor (on col. 3, lines 1-43 and col. 10, line 40 – col. 11, line 32: teaches sending database table differences and updating the copy of the database table at client changing the structure of database table).

### ***Response to Arguments***

9. Applicant's arguments filed 7/16/04 have been fully considered but they are not persuasive.

The response by the Examiner given to Applicant's Appeal Brief for claims 1-8, 11 and 14-15 is maintained.

Regarding Applicant's remarks on pages 6-7:

Referring to claim 9, the Examiner has cited Suver to disclose "dropping the first column", see rejection above.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure


Wlaschin et al. - USPN 5,729,730 – filed 03/1998

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Almari Yuan whose telephone number is 571-272-4104. The examiner can normally be reached on Mondays - Fridays (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild, can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AY  
December 13, 2004

  
**JOSEPH FEILD**  
**SUPERVISORY PATENT EXAMINER**